

Remarks

The specification has been amended to add section headings.

The claims have been amended solely as to form, bearing in mind the criticisms of the claims in the Official Action. Reconsideration and withdrawal of the objections to the claims are respectfully requested.

Claims 1-12 were rejected as unpatentable over FAERBER 6,060,687 in view of WO 98/14302 (which corresponds to EP-A-929 376 cited at page 3, line 9 of the present application). Reconsideration and withdrawal of the rejection are respectfully requested.

One of skill in the art would not combine these references in the manner suggested in the Official Action and thus one of skill in the art would not find the claimed subject matter to be obvious. FAERBER teaches a laser cutting process that is applicable to aluminum and its alloys that are sensitive to oxidation during cutting, namely metals having an oxide layer on their surface (column 1, line 66 through column 2, line 5). The goal of FAERBER is to improve the quality of the cut and to this end uses a mixture of hydrogen and an inert gas (column 1, lines 47-54). There is no indication in this reference that the process described therein is applicable to ferrous materials.

WO '302 discloses that a laser beam with multiple focal points is useable for cutting steel or stainless steel when the assist gas is a pure gas. There is no indication in this reference that the process described therein is applicable to non-ferrous materials.

In other words, WO '302 teaches a process for cutting a ferrous material with a multi-focal point laser beam and a pure assist gas, while FAERBER teaches a process for cutting a non-ferrous material with a single focal point laser beam and a mixture of hydrogen and an inert gas as the assist gas. There is no indication in either reference that either material may be cut with a multi-focal point laser beam and a mixture of hydrogen and an inert gas as the assist gas. There is nothing in the combination from which one of skill in the art would learn that there is a reasonable expectation of success when the processes are combined in the manner suggested in the Official Action. Without a reasonable expectation of success, the rejection under §103 is not viable and should be withdrawn.

One may find it obvious to try to combine the references to improve the cutting quality, but of course this is not an acceptable basis for a rejection under §103. There must be some motivation that is supported by a reasonable expectation of success. There is simply nothing in the references to offer

such reasonable expectation of success to one of skill in the art.

The Official Action states that the motivation to combine the references is to improve cutting quality. However, the technology for cutting a ferrous material with a multi-focal point laser beam and a pure assist gas and the technology for cutting a non-ferrous material with a single focal point laser beam and a mixture of hydrogen and an inert gas as the assist gas are not sufficiently related so that what is known in one technology is automatically transferable to the other. Indeed, the applicant states that these technologies are so unrelated as to be opposite each other. The consequences of mixing the technologies are not apparent to one of skill in the art from these references and the artisan would not make the combination suggested in the Official Action.

Further, there is nothing in the references to indicate that combining the two technologies would actually improve cutting quality above the cutting quality offered by either of the disclosed processes. One process could degrade an improvement provided by the other process or the two processes may duplicate each other so that there is no improvement at all. All of this is simply unknowable from these references.

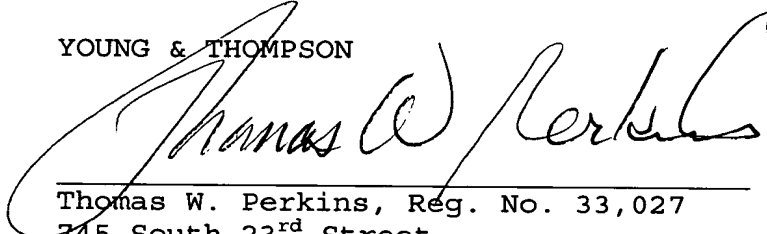
In view of the present amendment and the foregoing remarks, it is believed that the present application has been

placed in condition for allowance. Reconsideration and allowance are respectfully requested.

The Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 25-0120 for any additional fees required under 37 C.F.R. §1.16 or under 37 C.F.R. §1.17.

Respectfully submitted,

YOUNG & THOMPSON

A large, stylized handwritten signature in black ink, appearing to read "Thomas W. Perkins", is written over a horizontal line.

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